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TITLE : ZIRCONIA COMPOSITE SOL

ABSTRACT : PURPOSE: To obtain a composite gel giving a coating film having excellent weather resistance by heat-treating a mixture of a sol of a metal oxide other than  $ZrO_2$  and an aqueous solution of a Zr salt.

CONSTITUTION: A sol of a metal oxide other than zirconia is mixed with an aqueous solution of a zirconium salt and the obtained mixture is heat-treated and washed to obtain the objective composite sol. The composite sol is especially preferably a sol of cerium oxide, titanium oxide or iron oxide because the coating film of the zirconia-based composite sol produced by coating the dispersed particles of the oxide with zirconia has excellent ultraviolet absorptivity and weather resistance. The particle diameter of the colloid of the oxide sol is preferably 50-500 $\text{\AA}$ . The sol becomes unstable when the particle diameter is smaller than 50 $\text{\AA}$  and the transparency of the finally produced zirconia composite sol becomes poor when the diameter is larger than 500 $\text{\AA}$ .

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